

Mineral Industry Surveys

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ZINC IN NOVEMBER 2004

Domestic mine production in November of 58,800 metric tons (t) was about 8% less than in October and about 7% less than in November 2003, according to the U.S. Geological Survey. Estimated smelter production of 23,500 t was about 1% less than in October but was the same as in November 2003. Apparent consumption of 96,400 t was about 15% more than in October and about 17% more than that of November 2003.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc increased to 54.81 cents per pound in November. The price was about 22% (10.01 cents) higher than in November 2003.

Production at Zinifex Ltd.'s (formerly known as Pasminco Ltd.) Budel zinc refinery in the Netherlands increased to 230,000 t in 2004, an 8.4% increase compared with that of the previous year. Output in 2005 was forecast to be about 232,000 t, equivalent to the annual capacity. A feasibility study for expansion to 260,000 t in 2006 was under way (Metal-Pages, 2005¹).

Bulgaria's second largest zinc producer also increased its production in 2004 to 26,500 t from 22,000 t in 2003. Amid a global shortage, Olovno Tzinkov Komplex (OTZK) in Kardjali struggled to secure a stable supply of zinc concentrate (Metal-Pages, 2004a[§]).

The exclusive negotiation period between Noranda Inc. of Canada and China's Minmetals Corp. expired, and Noranda began to accept purchase proposals from other interested parties. Minmetals was still interested in purchasing Noranda, but the complexity of the proposed deal prevented it from reaching an agreement. Any sales agreement would require the approval of the Canadian Government (Mining Journal, 2004c).

Teck Cominco Ltd. and Marubeni Corp. of Japan have decided to sell their respective interests in the Cajamarquilla zinc refinery in Peru. Cia. Mineira de Metais (a subsidiary of Grupo Votorantim) of Brazil agreed to pay a total of \$210 million, of which 85% would be paid to Teck Cominco and 15% to Marubeni. Teck Cominco and Marubeni acquired their interests in Cajamarquilla in 1995 when the refinery was

privatized by the Peruvian Government and they subsequently expanded the operation to 130,000 metric tons per year (t/yr). The sale should be finalized by yearend 2004. Most of the zinc concentrate for the refinery was from Peruvian mines, including Antamina, in which Teck Cominco holds a 22.5% interest (Mining Journal, 2004a).

One of the main reasons for depressed zinc prices in the past reportedly was the large exports of zinc from China. With its low-cost labor force, low per capita consumption, and large reserves, China was expected to remain a perpetual exporter of zinc metal. In an unexpected turn, however, China became a net importer of zinc contained in concentrate, metal, and alloy. From 500,000 t of net exports in 2000, China went to net imports of about 100,000 t in 2004. Between 2000 and 2004, Chinese zinc consumption jumped by 67% while output increased by about 25% to an anticipated total of 2.46 million metric tons (Mt). Strong domestic demand for galvanized steel by the construction, housing, and manufacturing industries, power shortages, and transportation bottlenecks were the primary reasons for the switch (Mining Journal, 2004b). China produced 10 Mt of galvanized steel sheets and imported 4.8 Mt in 2003. It was estimated that production would increase by about 3 Mt, consuming an additional 120,000 t of CGG (continuous galvanizing grade) zinc in 2004. Imports of galvanized steel were expected to increase by 1.2 Mt in 2004 (Antaike, 2005).

Update

At yearend 2004, the zinc price at the London Metal Exchange (LME) reached a 7-year high of \$1,255.50 per metric ton, a more than 20% increase from that at the start of the year. At the same time, LME stocks declined by about 17% to 634,000 t. China reportedly was the major reason for the current price increase as it now consumes about one-fifth of the world's zinc. China's demand has been forecast to grow between 11% and 18% in 2005. Because of increased demand in China, world consumption in 2004 was expected to be about 260,000 t greater than production, and for 2005 the deficit was forecast to increase to about 280,000 t (Metal-Pages, 2004b[§]).

¹References that include a section mark (§) are found in the Internet References Cited section.

The Italian Government agreed to maintain its special electricity rate for Glencore International AG's Porto Vesme zinc and lead smelter in Sardinia, granted at the beginning of 2004, despite objections by the European Commission (Platts Metals Week, 2004a).

Workers at the La Oroya lead and zinc smelter joined local townspeople and farmers in an effort to force the Peruvian Government to accept the request of Doe Run Resources Corp. to extend an environmental compliance deadline by 5 years. When Doe Run bought the smelter in 1997, it agreed to build an acid plant by yearend 2006 to capture sulfur dioxide emissions, under the Program to Administer and Maintain the Ambient (PAMA). Doe Run insists that it first must address the previously overlooked and more pressing issue of non-stack emissions of lead before the acid plant is built. La Oroya produces 700 metric tons per day of metals, including copper, lead, zinc, eight other metals, nine non-metal byproducts, and three alloys (Platts Metals Week, 2004b). Compliance with the PAMA is a requirement for loans covering the financing and development of the plant, and failure to comply or gain an extension would put Doe Run in default (CRU International, 2004).

References Cited

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TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

	2003	2004			
	January- December	September	October	November	January- November
Production:					
Mine, zinc content of concentrate	768,000	64,100	64,200	58,800	677,000
Mine, recoverable zinc	738,000	61,600	61,600	56,300	654,000
Smelter, refined zinc	272,000	24,100 ^e	23,800 ^e	23,500 ^e	299,000
Consumption:					
Refined zinc, reported	423,000	33,800	34,700	34,300	388,000
Ores ^e (zinc content)	727	61	61	61	666
Zinc-base scrap ^e (zinc content)	191,000	15,900	15,900	15,900	175,000
Copper-base scrap ^e (zinc content)	176,000	14,700	14,700	14,700	161,000
Aluminum-and magnesium-base scrap ^e (zinc content)	1,430	120	120	120	1,320
Total ^e	791,000	64,500	65,400	65,000	726,000
Apparent consumption, metal ²	1,050,000	87,900	83,500	96,400 ³	1,060,000 ³
Stocks of refined (slab) zinc, end of period:					
Producer ⁴	XX	7,020	7,070	6,780	XX
Consumer ⁵	XX	53,700	54,000	54,300	XX
Merchant	XX	9,790	9,970	10,600	XX
Total	XX	70,500	71,000	71,600	XX
Shipments of zinc metal from Government stockpile	13,600	--	--	--	28,900
Imports for consumption:					
Refined (slab) zinc	758,000	60,400	73,600	NA	669,000 ⁶
Oxide (gross weight)	98,300	7,430	7,510	NA	86,800 ⁶
Ore and concentrate (zinc content)	164,000	27,800	13,100	NA	193,000 ⁶
Exports:					
Refined (slab) zinc	1,680	146	93	NA	3,050 ⁶
Oxide (gross weight)	12,100	1,340	864	NA	11,800 ⁶
Ore and concentrate (zinc content)	841,000	140,000	118,000	NA	707,000 ⁶
Waste and scrap (gross weight)	50,200	4,820	4,710	NA	44,300 ⁶
Price:					
London Metal Exchange, average, dollars per metric ton	\$827.32	\$974.83	\$1,064.49	\$1,095.18	\$1,035.31
Platts Metals Week North American Special High Grade, average, cents per pound	40.63	49.23	53.31	54.81	51.91

^eEstimated. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

²Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

³Data based on reported consumption, stocks, and estimated trade data.

⁴Data from U.S. Geological Survey and American Bureau of Metal Statistics.

⁵Includes an estimate for companies that report annually.

⁶Includes data through October only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES¹

(Metric tons)

Month	Beginning stocks ²	Production	Shipments	Ending stocks ²
2003:				
November	8,300	23,500	23,800	8,010
December	8,010	20,200	20,500	7,660
Year	XX	272,000	273,000	XX
2004:				
January	7,660	26,900	28,100	6,440
February	6,440	26,900	28,100	5,230
March	5,230	28,900	28,200	5,960
April	5,960 ^e	29,600	28,300	7,300
May	7,300 ^e	28,600	28,300	7,660
June	7,660 ^e	28,600 ^e	29,900	6,340
July	6,340 ^e	29,200 ^e	29,200	6,390
August	6,390 ^e	29,300 ^e	29,300	6,370
September	6,370 ^e	24,100 ^e	23,400	7,020
October	7,020 ^e	23,800 ^e	23,700	7,070
November	7,070 ^e	23,500 ^e	23,800	6,780
January-November	XX	299,000	300,000	XX

^eEstimated. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT¹

(Metric tons)

Industry and product	2003	2004			
	January- December	September	October	November ²	January- November ²
Galvanizing:					
Sheet and strip	442,000	36,700	34,500	39,800	436,000
Other	146,000	12,300	11,200	13,800	153,000
Total	588,000	49,000	45,800	53,600	589,000
Brass and bronze	167,000	13,200	13,200	15,300	173,000
Zinc-base alloy	222,000	18,800	17,900	20,300	223,000
Other uses ³	70,700	6,800	6,500	7,200	78,500
Grand total	1,050,000	87,900	83,500	96,400	1,060,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on reported consumption, stocks, and estimated trade data.

³Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES¹

Period	North American ¢/lb.	LME ² cash	
		¢/lb.	\$/t
2003:			
November	44.80	41.47	914.16
December	47.85	44.33	977.35
Year	40.63	37.53	827.32
2004:			
January	49.93	46.11	1,016.62
February	53.84	49.32	1,087.26
March	55.25	50.14	1,105.37
April	52.09	46.82	1,032.28
May	51.76	46.63	1,027.93
June	51.33	46.32	1,021.08
July	50.08	44.81	987.94
August	49.44	44.24	975.39
September	49.23	44.22	974.83
October	53.31	48.28	1,064.49
November	54.81	49.68	1,095.18
January-November	51.91	46.96	1,035.31

¹Special High Grade.

²London Metal Exchange.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC¹

Material	2003		2004 ²			
	Quantity (metric tons)	Value (thousands)	October		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,680	\$1,760	93	\$109	3,050	\$4,940
Ore and concentrate (zinc content)	841,000	337,000	118,000	67,300	707,000	400,000
Waste and scrap (gross weight)	50,200	32,600	4,710	4,480	44,300	38,300
Powders, flakes, dust (zinc content)	6,550	9,090	629	1,140	6,430	11,300
Oxide (gross weight)	12,100	15,200	864	1,260	11,800	16,300
Chloride (gross weight)	1,470	1,650	130	220	1,600	1,880
Sulfate (gross weight)	2,310	1,440	120	82	2,510	1,500
Compounds, other (gross weight)	183	472	43	155	163	581

¹Data are rounded to no more than three significant digits.

²Data for November 2004 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC¹

Material	2003		2004 ²			
	Quantity (metric tons)	Value (thousands)	October		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	758,000	\$647,000	73,600	\$76,800	669,000	\$735,000
Ore and concentrate (zinc content)	164,000	60,000	13,100	7,870	193,000	75,700
Waste and scrap (gross weight)	10,300	5,740	520	386	8,300	5,780
Powders, flakes, dust (zinc content)	27,400	41,200	2,780	4,510	21,300	34,700
Oxide (gross weight)	98,300	72,200	7,510	7,650	86,800	74,100
Chloride (gross weight)	663	914	58	48	657	750
Sulfate (gross weight)	25,800	11,700	2,120	1,050	23,700	11,300
Compounds, other (gross weight)	1,010	951	336	391	3,270	2,970

¹Data are rounded to no more than three significant digits.

²Data for November 2004 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE¹

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2003:			
November	102,000	539	102,000
December	102,000	6,270	95,200
Year	XX	13,600	XX
2004:			
January	95,200	3,340	91,900
February	91,900	--	91,900
March	91,900	2,920	89,000
April	89,000	3,340	85,600
May	85,600	14,700	70,900
June	70,900	1,170	69,800
July	69,800	44	69,700
August	69,700	3,360	66,400
September	66,400	--	66,400
October	66,400	--	66,400
November	66,400	--	66,400
January-November	XX	28,900	XX

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY^{1,2}

(Metric tons)

Material and country	General imports			Imports for consumption		
	2003	2004		2003	2004	
		October	Year to date		October	Year to date
Ore and concentrate (zinc content):						
Australia	43,400	--	19,300	43,400	--	19,300
Ireland	36,500	3,600	14,400	36,500	3,600	14,400
Mexico	9,400	173	5,970	9,400	173	5,970
Peru	74,600	9,360	152,000	74,600	9,360	152,000
Other	--	--	877	--	--	877
Total	164,000	13,100	193,000	164,000	13,100	193,000
Blocks, pigs, or slab:						
Australia	22,000	--	7,940	14,400	197	27,400
Brazil	27,600	877	23,900	22,400	877	23,900
Canada	498,000	42,200	414,000	498,000	42,200	414,000
China	23,800	--	35	48	2,150	11,700
Japan	50	--	--	--	--	690
Kazakhstan	19,700	--	2,310	19,700	--	2,310
Korea, Republic of	34,000	--	7,730	1,340	2,450	26,700
Mexico	141,000	12,400	101,000	141,000	12,400	101,000
Namibia	16,100	9,970	32,600	16,100	9,970	32,600
Peru	43,400	2,750	19,400	42,900	2,750	24,300
Poland	1,600	--	--	1,600	--	--
Other	1,050	--	203	121	538	3,970
Total	829,000	68,200	609,000	758,000	73,600	669,000
Dross, ashes, fume (zinc content)	14,100	1,280	13,100	14,100	1,280	13,100
Grand total	1,010,000	82,600	815,000	936,000	88,000	875,000
Oxide (gross weight):						
Canada	47,300	4,650	41,300	47,300	4,650	41,300
China	575	20	207	575	20	207
Italy	770	--	10,400	770	--	10,400
Japan	965	87	894	965	87	894
Mexico	40,500	2,360	29,300	40,500	2,360	29,300
Netherlands	4,820	363	4,050	4,820	363	4,050
Other	3,420	35	648	3,420	35	648
Total	98,300	7,510	86,800	98,300	7,510	86,800
Other (gross weight):						
Waste and scrap	10,300	520	8,300	10,300	520	8,300
Sheets	1,790	156	2,290	1,790	156	2,290
Powders, flakes, dust (zinc content)	27,500	2,780	21,300	27,400	2,780	21,300

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data for November 2004 were not available at time of publication.

Source: U.S. Census Bureau.